

CLAIMS:

1. A method for screening for an inhibitor, said method using induction of production of interleukin 18 in a living organism having an inflammatory skin lesion like atopic dermatitis, and

said method comprising:

an environment conditioning step for conditioning, in vivo or in vitro, an environment in which the production of interleukin 18 from keratinocyte is induced by stimulation with a stimulator; and

an inhibitor identifying step for administering a candidate-substance under the environment and identifying, as the inhibitor, a substance which inhibits the induction of the production of interleukin 18 from the keratinocyte.

2. The method as set forth in claim 1, wherein the stimulator is at least one of (i) protein A derived from *Staphylococcus aureus*, (ii) partial protein of the protein A, the partial protein being capable of stimulating keratinocyte, and (iii) a mutant of the protein A or of partial protein of the protein A, the mutant being capable of stimulating keratinocyte.

3. The method as set forth in claim 1 or 2, wherein, as the stimulator, SDS as well as protein A is used.

4. The method as set forth in claim 2 or 3, wherein, in the environment conditioning step carried out in vitro, the environment is realized by incubating culture cells of keratinocyte with a culture solution to which the protein A is added.

5. The method as set forth in claim 2 or 3, wherein, in the

environment conditioning step carried out in vivo, the environment is realized by applying the protein A on skin of the living organism provided as a host.

6. The method as set forth in claim 1, wherein, in the environment conditioning step carried out in vivo, the environment is realized by using, as the stimulator, a skin graft on which an inflammatory skin lesion like atopic dermatitis is developed, and transplanting the skin graft on the living organism provided as a host.

7. The method as set forth in claim 5 or 6, wherein the living organism provided as the host is at least such that CD4<sup>+</sup> T cells normally exist, that stat6 is expressed, and that NKT cells constitutively express IL-18R $\alpha$  chain.

8. The method as set forth in claim 5, 6, or 7, wherein the living organism provided as the host is a mouse.

9. A therapeutic drug for an immune disease, comprising an inhibitor obtained by using the method of screening as set forth in any one of claims 1 through 8.

10. A method for inhibiting high-level IgE in serum in a living organism having an inflammatory skin lesion like atopic dermatitis,

said method using an inhibitor obtained by using the method as set forth in any one of claims 1 through 8, or the therapeutic drug as set forth in claim 9, so as to inhibit systemic IgE response caused, without exposure to an antigen, by local accumulation of interleukin 18 from keratinocyte.

11. A method for inducing atopic dermatitis-like symptom, said method causing a model organism to develop an inflammatory skin lesion like atopic dermatitis, said method comprising the step of applying, on skin of the model organism, protein A derived from *Staphylococcus aureus*.

12. The method as set forth in claim 11, wherein, as the protein A, at least one of (i) complete protein of the protein A, (ii) partial protein of the protein A, the partial protein being capable of stimulating keratinocyte, and (iii) a mutant of the protein A or of partial protein of the protein A, the mutant being capable of stimulating keratinocyte.

13. The method as set forth in claim 11 or 12, wherein, when the protein A is applied on skin of a model organism, SDS is used as well as the protein A.

14. A model organism which develops an inflammatory skin lesion obtained by means of the method as set forth in claim 11, 12, or 13.

15. The model organism as set forth in claim 14, said model organism being a mouse.

16. A screening kit for carrying out the method as set forth in claims 1 through 8.

17. An inducing kit for inducing atopic dermatitis-like symptom, said kit being for carrying out the method as set forth in claim 11, 12, or 13.